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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,470	08/13/2001	Patrick Louis-Rene Riffault	42390.P7141c	1163

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06/14/2004

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EXAMINER

CHAUHAN, ULKA J

ART UNIT	PAPER NUMBER
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2676

14

DATE MAILED: 06/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,470

Applicant(s)

RIFFAULT, PATRICK LOUIS-RENE

Examiner

Ulka J. Chauhan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/4/04 has been entered.
2. Claims 1-17 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (APA) and U.S. Patent No. 6,070,211 to Neal et al.
5. As per claims 1-7, Applicant admits in paragraph [0005] that "prior 2X mode AGP graphics device normally includes input/output buffers for two address/data strobe signals (AD_STB0 and AD_STB1) and an input buffer for a sideband strobe signal (SB_STB). An AGP bus that allows 4X mode operation provides compliments of the above strobe signals (AD_STB0#, AD_STB1#, and SB_STB#) in addition to the above strobe signals. When the prior 2X mode AGP graphics device is installed on the AGP bus capable of 4X mode operation, the strobe compliment signals in prior systems are not connected at the prior 2X mode AGP

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graphics device. If an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device, a situation is created where the AD_STB0, AD_STB1, and SB_STB signals have three capacitive loads (one at a memory controller, one at the prior 2X mode AGP graphics device, and one at the upgrade 4X mode AGP graphics device) and the AD_STB0#, AD_STB1#, and SB_STB# signals have two capacitive loads (one at the memory controller and one at the upgrade 4X mode AGP graphics device). This difference in capacitive loading between the strobe signals and their compliments would have a negative impact on graphics bus timing relationships, and therefor a negative impact on system reliability.”

6. Neal teaches a system supporting differential signaling circuitry in which a bus comprises differential signal conductor pairs provided over a first line and a second line coupled to a termination network for terminating the first line and the second line [Abstract]. Neal discloses that employing balanced loads on the signal lines eliminates reflections resulting in single incident signaling, and includes a resistive load at the connection to differential signal line pairs [col. 6 lines 42-51]. Neal discloses that the value of the resistive load is selected to ensure that the loads seen by differential signal line pairs remains substantially balanced and that each set of resistive load for each differential signal may be located on the mother board, one set near the PCI host bridge and the other set at the opposite end of the PCI bus [col. 6 lines 57-64].

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of APA and Neal such that the AD_STB0#, AD_STB1#, and SB_STB# signals, having two capacitive loads when an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode

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AGP device, are terminated at a termination network comprising buffers similar to the buffers for AD_STB0, AD_STB1, and SB_STB signals in the prior 2X mode AGP device, and that provide a balanced load so that reflections on the signal lines are eliminated resulting in single incident signaling. And as the prior 2X mode AGP graphics device utilizes only AD_STB0, AD_STB1, and SB_STB signals, the buffers for terminating the AD_STB0#, AD_STB1#, and SB_STB# signals would not be connected to any internal circuits of the of the prior 2X mode AGP device.

8. As per claim 8, since APA [0005] discloses a situation where a prior 2X mode AGP graphics device is installed on the AGP bus capable of 4X mode operation and an upgrade 4X mode AGP graphics device is installed on the 4X mode capable AGP bus in parallel with the prior 2X mode AGP device. The remainder of claim 8 and claims 9-17 recite limitations similar in scope to claims 1-7, and therefore, claims 8-17 are rejected under the same rationale.

Response to Arguments

9. Applicant's arguments filed 6/4/04 have been fully considered but they are not persuasive. Applicant argues that the cited prior art does not teach the newly added limitation "*the load balancing bus signal buffer is not connected to any internal circuits of the graphics device*". As noted above, as the prior 2X mode AGP graphics device utilizes only AD_STB0, AD_STB1, and SB_STB signals, the buffers for terminating the AD_STB0#, AD_STB1#, and SB_STB# signals (for providing a balanced load so that reflections on the signal lines are eliminated resulting in single incident signaling) would not be connected to any internal circuits of the of the prior 2X mode AGP device.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ulka J. Chauhan whose telephone number is (703) 305-9651.

The examiner can normally be reached on Mon. through Fri., 9:30 a.m. to 4:00 p.m.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ulka J. Chauhan
Primary Examiner
Art Unit 2676

ujc
June 11, 2004